DOCUMENT RESUME

ED 184 758 **RC 011 936**

AUTHOR	Zero, Edward J.; Mertz, Gregory
TITLE	Site Guide to Nissequogue River State Park. Revised.
INSTITUTION	Long Island State Park and Recreation Commission, N.Y.; New York State Executive Office, Albany.; SCOPE Outdoor Learning Laboratories, Kings Park, N.Y.
SPONS AGENCY	Suffolk County Board of Cooperative Educational Services 3, Dix Hills, N.Y.
PUB DATE	78
NOTE	50p.; For related document, see RC 011 934-935 and RC 011 937.
AVAILABLE FROM	SCOPE Outdoor Learning Laboratories/BOCES, PO Box 17, Smithtown, NY 11787 ($2.35)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Botany; Conservation (Environment); Elementary Secondary Education; Environmental Education; Equipment; *Experiential Learning; Facilities; Inservice Teacher Education; *Outdoor Education; *Parks; *Plant Identification; *Program Descriptions; Program Guides; Resident Camp Programs; Services
IDENTIFIERS	*Nissequogue River State Park NY; *SCOPE Outdoor Learning Laboratories

ABSTRACT

Nissequogue River State Park is one of the last large tracts of undeveloped land on Long Island (NY) and is a refuge for organisms displaced by the rapid and extensive growth of suburbia. A reconstructed 120 year old barn and stable house the Outdoor Learning Laboratory which consists of interpretive displays (bird and mammal identification, animal tracks, and the natural history of trees), fresh water aquaria, terrariums, fireplace, contour map, staff offices, curriculum files, and teacher resource center. This site guide describes the history and setting of the Park and Laboratory with accompanying maps and drawings; lists more than 200 species of flora found in the Park during 1977, providing botanical names and growing conditions; and provides Park use instructions including travel directions, hours of operation, safety procedures, first aid reminders, equipment requisitioning procedures, conservation practices, and inservice teacher training requirements for day-use and residential programs. (NEC)

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Site Guide

to

Nissequogue River State Park

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Outdoor Learning Laboratories

Expanding the Classroom into the Natural World

Acknowledgements

As the author I am particularly appreciative for the cooperation, support and assistance provided by all support personnel involved. In particular I wish to acknowledge the assistance of Kathy Heffer for her willingness to assist and for her endless enthusiasium throughout the entire project. To Marie Matteo I wish to extend my sincere thanks for her graphic assistance and for her excellent art work.

SCOPE OUTDOOR LEARNING LABORATORIES

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CONTENTS

Superintendents of BOCES I, II, and III i
SCOPE Executive and Executive Director ii
Park Commission Hierarchy and Personnel iii
Outdoor Learning Laboratory Staff iv

Map of Nissequogue River Watershed 1

Nissequogue River State Park
- A River Valley 2
- Valued by Man 3-4
- Clubhouse (Wyandanch Club) 4-6
- The Mill House 6-7
- Willow Pond Mill 8
- History of the Outdoor Learning Laboratory 9

Floral List 10-29

Map of Nissequogue River State Park 18-19

Map to the Park 31

Directions to the Park 32

Laboratory Hours 32

Guidelines 33

Safety 34-35

Equipment 36

Conservation Practices 37

Teacher Participation Plan 38-42

THE NISSEQUOGUE RIVER WATERSHED

NISSEQUOGUE RIVER STATE PARK

A River Valley

Before swinging north to empty in Long Island Sound, Nissequogue River flows eastward through a valley area close to the geographical center of Long Island. The central part of the rich valley ecosystem, comprised of wooded uplands, marshy lowlands, ponds, streams, and rivers, is preserved as Nissequogue River State Park.

The Watershed is made up of the south shore's low hills (Ronkonkoma Moraine), the north shore's high hills (Harbor Hill Moraine), and the lowlands between. On the retreat of the Wisconsin glacier, precipitation and melting snow and ice formed rivulets along the Long Island Sound face of the Harbor Hill Moraine, and some of the rivulets merged into streams. One of these streams dug deep into the flank of the ridge with a "back hoe" action until it chewed a gap through the moraine; reaching the valley and tapping the valley's streams and ponds, the stream increased its volume of discharge and became a river.

For eighty or more centuries, the well-watered valley has nourished a thriving community of living things. Hardwood trees and evergreens flourish on the upper slopes, softwood trees on the valley floor, grasses along the edges of the waters, and shrubs everywhere. Birds, mammals, fish and other life forms multiply and continue their generations in the valley of the Nissequogue.

The Nissequogue Valley Valued by Man:

Tradition has it that the Nissequogue Indian chiefs hald the valley in high respect, perhaps in reverence, because of its beauty and fertility. They released the land to six settlers in 1653 but re-possessed it when the settlers neither took official title nor improved the land. Chief Wyandanch, Grand Sachem of the 13 Long Island tribes, made a gift of the valley to Lion Gardiner after Gardiner rescued the daughter of Wyandanch from kidnapping. In 1663 Gardiner sold a good part of the valley, including the present park site, to his old and good friend, Richard Smythe.

A boundary dispute arose between Smythe and a neighboring landowner, Huntington. Colonial authorities, tradition holds, allotted to Smythe as much of the disputed land as he could ride around on the back of his locally known bull, Whisper; it is said Smythe rode around 45 square miles of what is now Smithtown, and today Whisper is immortalized in a bronze sculpture at the junction of 25A and Jericho Turnpike.

In about 1752, a grandson of Richard "Bull" Smythe built a house for his son, Caleb Smith I, on an eminence on the north side of the turnpike; the house remains as part of the present main building. The driveway was lined with shipmast locusts, the stream was dammed to enlarge Willow Pond, and a sawmill was built. Caleb Smith I, a Yale graduate of the class of 1744, apparently loved his country as much as he loved his home and lands, for he defended both against the British. During the Revolution, the king's troops, aided by Tories, marauded the property and threatened Caleb's life. He buried money and plate. Roused out of his bed many nights, shot at, lashed up and down the dam at Willow Pond, Caleb Smith refused to take the oath of allegiance to the king. One old door, it is said, still bears the gash of a Tory cutlass. Caleb Smith I held out and handed down his lands to his son and grandson. In all, six generations of Smiths flourished on these lands. They added to the house; they converted the sawmill into a grist mill and rebuilt it when it burned in 1823.

Outdoor sportsmen had often admired the Smith family acreage in the heart of the river valley, and in 1872 a group of them

formed the Brooklyn Gun Club to purchase the property. Club members (sometimes calling themselves the Nissequogue River Club and the property the Wyandanch Preserve), treasured the wildness of the land and jealously guarded it against the incursions of advancing civilization.

In 1963 New York State acquired the preserve from the club and opened it to the public as a limited-use park in 1974 under the administration of the Long Island State Park and Recreation Commission. The New York State Office of Parks and River valley in trust for the people--for us.

CLUBHOUSE (WYANDANCH CLUB)

The Brooklyn Gun Club, which was founded in 1872 as a hunting and fishing club, changed its name in 1893 to the Wyandanch Club, honoring the sachem who was the ruler of the thirteen indian tribes on Long Island. His own tribe, the Nesquakes, were the original occupants of the lands which comprise Smithtown, In the division of Richard Smith's possessions among his seven children after his death in 1692, the land later owned by the Wyandanch Club passes to his fifth son Daniel, who died in 1715; then to Daniel II (1691-1763); then to Caleb I (1724-1800); then to Paul Theodore (1759-1813); and finally to Theodorus (1795-1876), when after six generations of fater - to - son inheritance, it passed out of the Smith family, to be acquired by the Club.

The lands which make up the Club's hunting preserves and trout streams extend for several miles along the east and west banks of

the Nissequogue River and its tributaries between the dams at the Stump Pond and the Head of the River. Additional lands for hunting and fishing were leased from the estates of the late Morgan Blydenburg, now owned by Mr. David Weld, and the late George Blydenburgh. In June 1963, under the Open Space Program, the lands of the Wyandanch Club (now known as the Nissequogue River Club) were acquired by New York State, to be administered by the state Department of Conservation and the Long Island State Park and Recreation Commission. The property will be kept as nearly as possible in its natural state as a game refuge, and as a fishing and wildlife conservation area. (In 1966, Suffolk County acquired the estate of Mr. David Weld for the County Park Commission, thus insuring the preservation of this entire area as undeveloped land.)

The handsome building which has served as the Clubhouse of the Wyandanch Club stands on an eminence off the Jericho Turnpike, and is approached by a driveway lined with an avenue of ship-mast locust trees. The central part of the house was built before the Revolution, about 1752-3, as the dwelling of Caleb Smith I. Caleb's father Daniel built the house for him sometime before Caleb's marriage to Martha Smith, of the Tangier Smith family, in 1755; extensive additions have been made to the structure, however, both before and after its acquisition by the Club in 1880.

Many historical associations still remain. Caleb Smith I, a graduate of Yale in 1744, was a sturdy patriot who suffered greatly under the British occupation of Long Island. He was a man of wealth for those days, and in order to save his possessions from the depredations of the British soldiers and the gangs of whale-boatmen from Connecticut, he buried money, and a large amount of the silver plate which had been given to his wife on her marriage, in a secluded spot on the farm. Though shot at repeatedly, roused from his bed at midnight by British soldiers, lashed with "hickory gads" up and down the dam of Willow Pond, he refused to take oath of allegiance to King George. One of the old doors still bears the mark where a Tory's cutlass slashed at him and missed. An over-conscientious painter, some years ago, filled the scar with putty and painted over it smoothly; but the horrified club members immediately had the putty removed, so that now the slash shows as deep as ever. The "Certificate of Protection" for which Caleb reluctantly applied to General Cornwallis now hangs framed upon the wall, having been presented to the Club in 1954 by one of Caleb's descendants.

Several adjacent properties also owned by the Club have been acquired by the State of New York. Preservation of the houses on these properties, as well as of the Clubhouse, will fall in the domain of the state and county agencies.

AUTHORITIES: Conveyances and Acquisitions of the Wyandanch Club, compiled by Jno. L. Hills, Esq. (Handley Collection, Smithtown Library); "History of Smithtown" - J. Lawrence Smith 1961 ed. p. 26; "History of L.I." - Ross (Pelletreau) Vol. II p. 225, Vol III pp. 254-255; Smithtown Town Records trans. by Pelletreau 1898 pp. 491-492; "Long Ago" column. Smithtown News-Aug. 20, 1959; News release: June 13, 1963, Smithtown News: Letter from O'Neil Ryan, Pres., to Miss Mildred Smith, July 1963.

THE MILL HOUSE

James Chipman's farm, which was surveyed on "June ye 28, 1736," contained fifty five acres, and was leased to him by Daniel Smith II (1690-1763). Another tract of land was surveyed in April of the same year, "so as the said tract shall be twelve rods wide from the mill pond, by the house of James Chipman now standing by the end of the dam."

The dates when James Chipman lived are unavailable, but to judge from the dates on the above surveys, the house pictured above was

certainly built by 1736. James Chipman had bought the fulling-mill and one half of the saw-mill at the Head of the River, from Daniel Baytes, deceased by 1736. Chipman would have been over 80 years old, if he were the miller at the Willow Pond Mill which was built in 1795.

The mill was called successively Seacord's Oakley's. Horton's and Davis's mills. Capt. Lewis W. Davis was the last mill-owner to live in this house: he sold it to the Wyandanch Club in the early 1900's for a price that would have astounded his predecessors. The brook or branch that raised the mill pond formed the west and south bounds of the farm on which Capt. Davis's house and mill stood. Further upstream on this brook stood the large tannery and shoe factory of Eliphalet Whitman (1773-1838).

There was quite a settlement around this mill at one time. A diagram by the late Mrs. Walter Scott (a great-great-granddaughter of Paul Theodore Smith, and also mother of Earl Scott) is now in the possession of Frank E. Brush. It shows a blacksmith shop, the dwelling of William Franklyn Smith, now gone, the mill house pictured previously, and the Willow Pond mill: all on the west side of the Jericho Turnpike. John Van Wyck Smith (1814-1886), grandson of Paul Theodore, owned the blacksmith shop and lived at the Head of the River in the Haff house; shop and house are both now gone.

On the east side of the Turnpike stood the Aaron Vail house, and two buildings owned by Raynor. One of the buildings was used as a store and sold "plaster of Paris, images, thread, cuff buttons and odds and ends of dishes and candy".

The mill house is now occupied by the Superintendent of the park and his family.

AUTHORITIES: Smithtown Town Records trans. by Pelletreau in 1898: p. 277 Survey mentioning Chipman's house; p. 336 Survey of Chipman's farm; notes by Pelletreau; "History of Smithtown" J. Lawrence Smith p. 26 1961 ed.; Conversation: Frank E. Brush to C.A.G. in 1964; and diagram by Mrs. Walter Scott.

WILLOW POND MILL

The dam at Willow Pond was the site of a mill that was probably standing before the American Revolution. In the latter half of the 1700's the property was known as Willow Pond, and belonged to Caleb Smith I (1724-1800), a great-grandson of Richard Smith.

First a saw-mill and then a grist-mill were built here about 1795 by Paul Theodore Smith, son of Caleb I. The grist-mill burned in 1823 and the present mill was erected in its place. It has been known from its different owners as Seacord's Oakley's, Horton's and Davis's Mills. Captain Lewis Davis was the last mill owner before the Wyandanch Club took it over.

Painted barn-red with white trim, standing on the west side of the Jericho Turnpike, the mill belongs to the Wyandanch Club. The machinery has been removed since, and the sturcture is now used for storage.

AUTHORITIES: "History of L.I." - Ross (Pelletreau) Vol. II p. 225; "History of Smithtown" - J. Lawrence Smith 1961 ed. p.26 Town Records trans. by Sleight 1929 p. 63; "Long Ago" column, Smithtown News February 1, 1962.

History of the Outdoor Learning Laboratory at Nissequogue River State Park

The Outdoor Learning Laboratory at Nissequogue River State Park is a reconstructed 120 year old barn and stable. A house trailer purchased through HUD, Housing and Urban Development, was attached to the main structure to form the east wing providing ample space for rest rooms and kitchen area. The two story structure has an office upstairs and storage areas in both the basement and attic. It has a pleasing rustic look and an interior floor plan that provides sufficient space for two instructional settings. The design of the facility offers privacy to classes as well as freedom to enter or exit without disturbing ongoing programs.

Special attention was paid in designing the facility with sufficient natural light and adequate ventilation.

At present the main floor consists of interpretive displays with bird and mammal identification, animal tracks and the natural history of trees; fresh water aquaria, terrariums, fireplace and contour map. The office is located upstairs where the Director and support personnel are located. It also houses the curriculum files and the teacher resource center.

The Outdoor Learning Laboratory was refurbished by SCOPE with cooperation from the New York State Executive Office Parks and Recreation and the Long Island State Park and Recreation Commission. Supervision of the reconstruction and supplemental labor was provided by the professional staff and students from the Wilson Technological Center of BOCES III.

The Floral Fabric
of
Nissequogue River State Park

Nissequogue River State Park is one of the last large tracts of undeveloped land on Long Island and is a refuge for organisms displaced by the rapid and extensive growth of suburbia. Botanically, the park maintains a high diversity of over 200 plant species composing several plant communities.

The Nissequogue River and its tributaries have cut valleys in the sandy, gravelly moraine, leaving high, dry ridges and producing wet lowlands. Intermediate between these extremes are moist depressions or flats, and slopes, which connect the dry ridges and wet bottomlands. The vegetation forms a mosaic pattern over this varied landscape, each individual plant species existing in the conditions to which it is best adapted, thus usually reflecting the moisture level of the environment. For example, oak and pine grow on the ridgetops while red maple and tulip-tree inhabit the swamps. It should be emphasized that these plant communities intergrade with one another, and that a plant community, per se, is only one point on a continuum of moisture change, from dry upland to wet lowland. We may characterize several plant communities then, on the basis of environmental moisture.

1) Dry uplands of oak, pine and huckleberry intergrade with 2) moist woods of tulip-tree, white ash, red maple and Japanese honeysuckle. Next along the moisture gradient comes 3) wooded swamps of red maple, tulip-tree, tupelo and pepperbush, followed by 4) open swamps of alder, water willow, sedges and ferns. The extreme in moisture is the aquatic community 5) dominated by water milfoil in lakes and pondweed in running water.

We must also consider man's impact on the land, remembering that parts of the park were once plowed for agriculture and that major roads cross the property. These disturbances have resulted in old field and roadside communities, unstable communities which are in the process of succession, that is, moving toward the typical or climax vegetation. Thus another community is the 6) old field - roadside community. In time, the old field would be expected to develop into one of the natural communities previously described. The roadside may not be allowed to follow the process of plant succession, due to continued disturbance through highway maintenance.

LONG ISLAND STATE PARK AND RECREATION COMMISSION

Nissequogue River State Park
Jericho Turnpike
Smithtown, New York 11787

FLORAL LIST - 1977

		Conditions
1. ALGA		
Blue-Green (Cyanophycophyta)		
	Chroococcus sp.	encrusting rocks in wat
	Gloeocapsa sp.	encrusting rocks - land
	Nostoc sp.	
Green (Chlorophycophyta)		
	Ulothrix sp.	ponds
	Chlamydomonas sp.	river
5 species		
2. FUNGI		
Homobasidiomycetes		
Family Amanitaceae	Amanita pantherina	under conifers
Family Russulaceae		
Orange-Brown Lactarius	Lactarius deliciosus	moss
Green Russula	Russula sp.	woods
	Russula emetica	woods
	Lactorius sp.	dry woods

		Conditions
Pleurotus and Allies		
Oyster Mushroom	*Pleurotus ostreatus*	dead wood
	Panus sp.	dead wood
Armillarias and Allies		
Honey Mushroom	*Armillaria mellea*	woods
Marasmius	*Marasmius siccus*	moss
Family Thelephoraceae	*Stereum versicolor*	dead wood
Mycena		
Bleeding Mycena	*Mycena haemotopus*	wet wood
	Mycena leaiana	wood
Family Coprinaceae	*Coprinus plicatilis*	manure
Family Agaricaceae	*Agaricus campestris*	lawn
Family Canthorellaceae		
Vermillion Chanterelle	*Canthorellus cinnaborinus*	woods
Family Clavariaceae		
Coral Fungus	*Clavaria stricta*	woods
Coral Fungus	*Clavaria cinerea*	woods
Family Boletaceae		
Old Man of the Woods	*Strobilomyces floccopus*	dry woods
Yellow Cracked Bolete	*Boletus subtomentosus*	dry woods
Steel Blue Leptonia	*Leptonia chalybaea*	moist woods
Family Ustiloginaceae		
Corn Smut	*Ustilago maydis*	corn
White Pine Rust	*Cronartium ribicola*	pine-currant

		Conditions
Family Polyporaceae		
Chicken Fungus	Polyporous sulfurous	stumps
	Fomes pinicola	woods
	Fomes rimosus	woods
	Polyporous versicolor	dead wood
	Polystictus pergamenus	dead wood
	Polyporous giluus	dead wood
	Ganoderma applanatum	dead birch
	Hydnum spp.	dead wood
Family Phallaceae		
Dog Stinkhorn	Mutinus caninus	moist woods
Common Stinkhorn	Phallus impudicus	moist woods
Family Nidulariaceae		
Common Birds Nest	Crucibulum vulgare	fields
Striate Birds Nest	Cyathus striatus	fields
Family Geastraceae		
Triplex Earthstar	Geaster triplex	fields
Family Lycoperdaceae		
Giant Puffball	Calvatia gigantea	fields
	Scleroderma vulgare	fields
Ascomycetes		
Family Pezizoceae	Peziza coutellata	
Family Dothediaceae		
Black Knot of Plum	Dibotryon morbosum	cherry
Phycomycetes		
Family Saprolegniaceae		
Water Mold	Saprolegnia sp.	animals
Myxomycetes		
Family Lycogalaceae	Lycogala epidendrum	wet wood

41 species

		Conditions
3. LICHENS		
Crustose Habit		
Map Lichen	Rhizocarpon geographicum	tree trunks
Foliose Habit		
Rough Shield Lichen	Parmelia rudecta	tree trunks
Wrinkled Tree Lichen	Parmelia caperata	tree trunks
Pale Shield Lichen	Cetraria glauca	tree trunks
Boulder Lichen	Parmelia conspersa	tree trunks
Fruticose Habit		
Scarlet-Crested Clodonia	Cladonia cristatella	dead wood
Reindeer Lichen	Cladonia rangiferina	fields
Red-Fruited Pyxie Cup	Cladonia pyxidata	fields
Leafy Cladonia	Cladonia squamosa	swampy clearing
9 species		
4. MOSSES		
Peat Moss (Sphagnaceae)		
Sphagnum Moss	Sphagnum sp.	bog
Broom Moss (Dicranaceae)		
Broom Moss	Dicranum scoparium	wet woods
Cushion Moss (Leucobryaceae)		
Cushion Moss	Leucobrym glaucum	dry woods
Fern Moss (Thuidiaceae)		
Common Fern Moss	Thuidium delicatulum	wet woods

		Conditions
Hypnum (Hypnaceae)		
Common Hypnum	*Hypnum imponens*	wet woods
Plume Moss	*Hypnum crista-castrensis*	wet woods
Tree Moss	*Climacium americanum*	bog
Hair-Cap Moss (Polytrichaceae)		
Common Hair-Cap	*Polytrichum commune*	fields
Ohio Hair-Cap	*Polytrichum ohioense*	woods

9 species

5 FERNS

Adder's Tongue (Ophioglossaceae)		
Rattlesnake Fern	*Botrychium virginianum*	woods
Cut-Leaved Grape Fern	*Botrychium dissectum*	woods
Royal Fern (Osmundaceae)		
Royal Fern	*Osmunda regalis*	wet woods
Cinnamon Fern	*Osmunda cinnamomea*	wet woods
Interrupted Fern	*Osmunda claytoniana*	wet woods
Polypody (Polypodiaceae)		
Hayscented Fern	*Dennstaedtia punctilobula*	wooded clearings
Bracken Fern	*Pteridium aquilinum*	open areas
Netted Chain Fern	*Woodwardia virginica*	wet woods
*Ebony Spleenwort	*Asplenium platyneuron*	woods
New York Fern	*Thelypteris noveboracensis*	woods
Marsh Fern	*Thelypteris palustris*	marshy area
Massachusetts Fern	*Thelypteris simulata*	marsh
Christmas Fern	*Polystichum acrostichoides*	marsh
*Polypody	*Polypodium virginianum*	woods
Sensitive Fern	*Onaclea sensibilis*	wet woods
Spinulos Woodfern	*Dryopteris spinulosa*	moist woods
Evergreen Woodfern	*Dryopteris intermedia*	moist woods
Crested Woodfern	*Dryopteris cristata*	moist woods
Boott's Fern	*Dryopteris X boottii*	moist woods
Silver Strip Fern	*Athyrium thelypteroides*	marshy area
Lady Fern	*Athyrium filix-femina*	Woods

21 species

6. FERN ALLIES

		Conditions
Club Moss (Lycopodiaceae)		
	*Lycopodium appressum	moist woods
*Running Pine	Lycopodium complanatum	woods
*Bog Clubmoss	Lycopodium inundatum	woods
*Shining Clubmoss	Lycopodium obscurum	woods
*Ground Cedar	Lycopodium tristachyum	woods
Horse Tail (Equisetaceae)		
Horsetail	Equisetum arvense	wet woods
Selogenallaceae		
	Selogenella sp.	cold streams

8 species

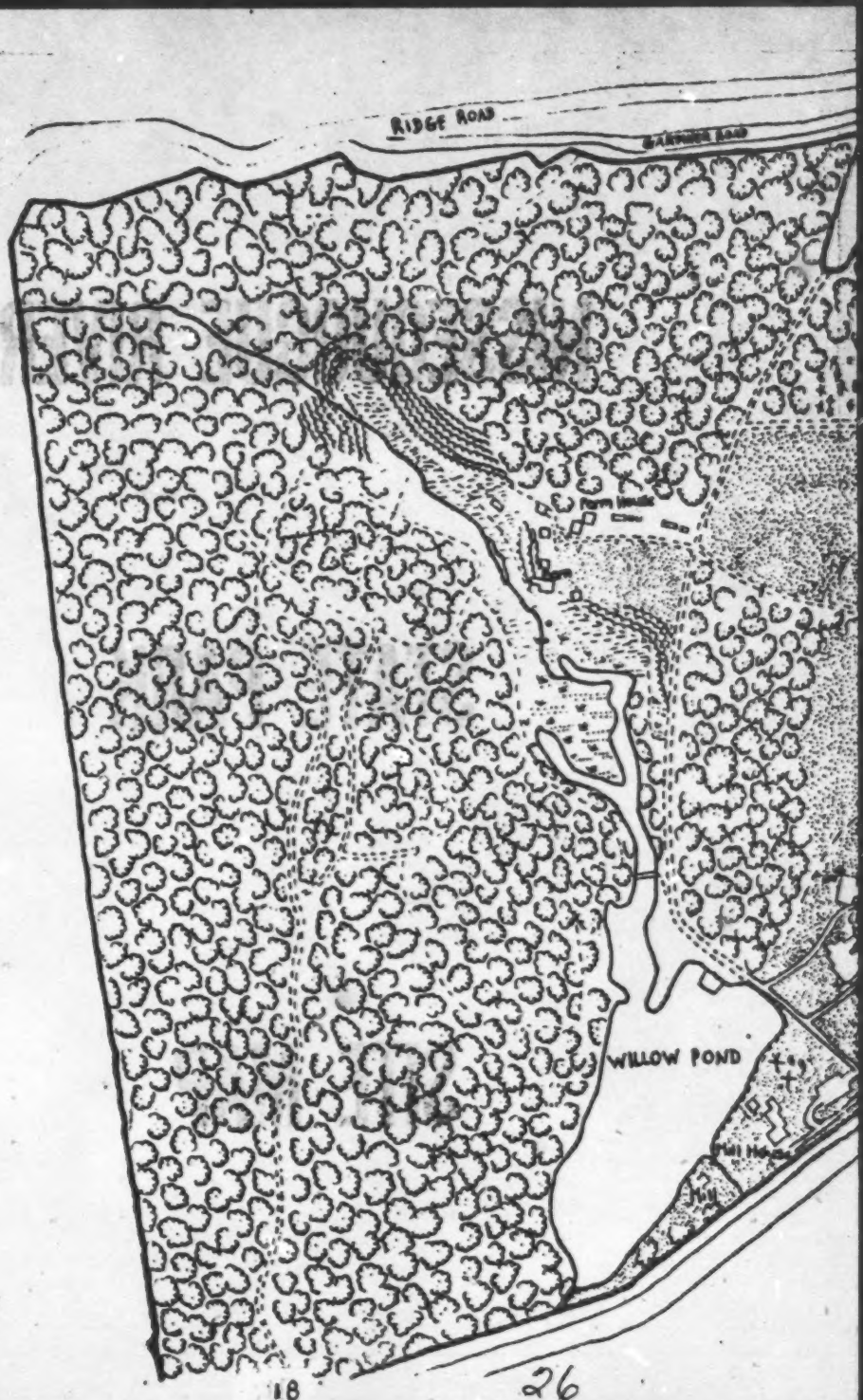
7. CONIFERS

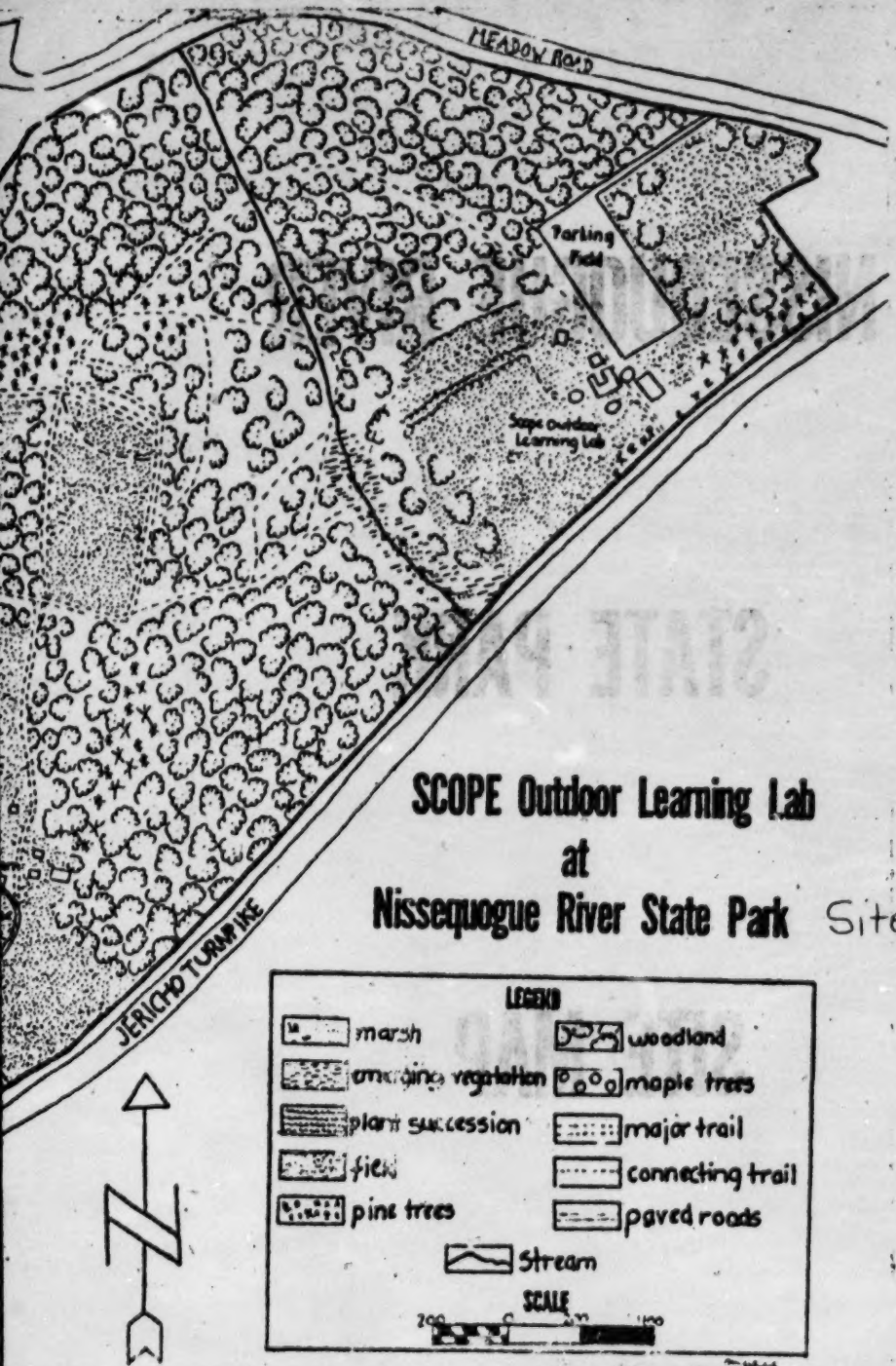
Pine (Pinaceae)		
Norway Spruce	Picea abies	planted, escapes
White Pine	Pinus strobus	moist groves
Pitch Pine	Pinus rigida	dry woods
Eastern Hemlock	Tsuga canadensis	planted
Cypress (Araucariaceae)		
Eastern Red Cedar	Juniperus virginiana	fields, woods
Northern White Cedar	Thuja occidentalis	wet lowlands
Trailing Juniper	Juniperus horizontalis	dry woods
Yew		
American Yew	Taxus canadensis	planted

8 species

8. FLOWERING PLANTS (TREES)

		Conditions
Willow (Salicaceae)		
Quaking Aspen	Populus tremuloides	disturbed clearings
Big-Toothed Aspen	Populus grandidentata	disturbed clearings
Black Willow	Salix nigra	along waterways
Weeping Willow	Salix babylonica	shore line
Walnut (Juglandaceae)		
Black Walnut	Juglans nigra	rich soil
Mockernut Hickory	Carya tomentosa	dry woods
Shagbark Hickory	Carya ovata	woods
Birch (Betulaceae)		
Gray Birch	Betula populifolia	open areas
Sweet Birch	Betula lenta	moist woods
Smooth Alder	Alnus serrulata	lake shores, banks
European White Birch	Betula papyrifera	escapes
Beech (Fagaceae)		
American Beech	Fagus grandifolia	moist woods
European Beech	Fagus sylvatica	ornamental
American Chestnut	Castanea dentata	dry woods
White Oak	Quercus alba	dry woods
Scrub Oak	Quercus ilicifolia	sandy open areas
Black Oak	Quercus velutina	dry open areas
Post Oak		
Red Oak	Quercus rubra	sandy clearings
Scarlet Oak	Quercus coccinea	sandy soils
Mulberry (Moraceae)		
Red Mulberry	Morus rubra	rich woods
Magnolia (Magnolicaeae)		
Cucumber Tree	Magnolia acuminata	planted
Tulip Tree	Liriodendron tulipifera	moist woods


RIDGE ROAD
WILLOW POND



SCOPE Outdoor Learning Lab at Nissequogue River State Park

Site Map

		Conditions
Laurel Family (Lauraceae)		
Sassafras	Sassafras albidum	woods
Rose Family (Rosaceae)		
Wild Apple	Malus pumila	along roads, trails
Sweet Cherry	Prunus avium	moist woods
Black Cherry	Prunus serotina	dry woods
Pear		planted
Beach Plum	Prunus maritina	sandy fields
Legume (Fabaceae)		
Black Locust	Robinia pseudocacia	open areas
Honey Locust	Gleditsia triacanthos	planted
Quassia (Simaroubaceae)		
Tree of Heaven	Ailanthus altissima	roadsides
Maple (Aceraceae)		
Norway Maple	Acer platanoides	escaped
Red Maple	Acer rubrum	moist woods
Sugar Maple	Acer saccharum	planted
Dogwood (Cornaceae)		
*Flowering Dogwood	Cornus florida	moist woods
Tupelo (Nyssaceae)		
Sourgum	Nyssa sylvatica	wooded swamps
Olive (Oleaceae)		
White Ash	Fraxinus americana	moist woods
Trumpet Creeper (Bignoniaceae)		
Northern Catalpa	Catalpa bignonioides	roadsides

37 species

9. FLOWERING PLANTS - SHRUBS		Conditions
Lily (Liliaceae)		
Greenbrier	Smilax rotundifolia	moist thickets
***Bayberry (Myricaceae)**		
Northern Bayberry	Myrica pensylvanica	dry open woods
Sweetfern	Comptonia peregina	dry open woods
Barberry (Berberidaceae)		
Japanese Barberry	Berberis thunbergii	old pastures
Laurel (Lauraceae)		
Spicebush	Lindera benzoin	moist woods
Saxifrage (Saxifrangaceae)		
Asiatic Hydrangea	Hydrangea paniculata	ornamental
Witch Hazel (Hamamelidaceae)		
Witch Hazel	Hamamelis virginiana	moist openings
Rose (Rosaceae)		
Swamp Rose	Rosa palustris	riverbanks
Common Blackberry	Rubus allegheniensis	open thickets
Northern Dewberry	Rubus flagellaris	dry woods
Prickly Dewberry	Rubus hispidus	wet woods
Juneberry	Amelanchier sp.	openings
Red Chokeberry	Pyrus arbutifolia	open swamps
Black Chokeberry	Pyrus melanocarpa	open swamps
Ninebark	Physocarpus opulifolius	open areas
Cashew (Anacardiaceae)		
Poison Ivy	Rhus radicans	woods, fields
Poison Sumac	Rhus vernix	wooded swamps
Winged Sumac	Rhus copallina	old fields
Smooth Sumac	Rhus glabra	field edges

Holly (Aquifoliaceae)		Conditions
*Winterberry	Ilex verticillata	moist woods
Staff Tree (Celastraceae)		
Oriental Bittersweet	Celastrus orbiculatus	moist woods
Japanese Euonymus	Euonymus fortunei	field edges
Buckthorn (Thamnaceae)		
Buckthorn	Rhamnus cathartica	old fence rows
Grape (Vitaceae)		
Fox Grape	Vitus labrusca	moist thickets
Virginia Creeper	Pathenocissus quinquefolia	moist or dry thicket
White Alder (Clethraceae)		
Coast Pepperbush	Clethra alnifolia	wooded swamps
Heath (Ericaceae)		
*Swamp Azalea	Rhododendron viscosum	wet woods
*Sheep Laurel	Kalmia angustifolia	bogs
Bearberry	Arctostaphylos uva-ursi	dry ridges
Black Huckleberry	Gaylussacia baccata	dry open woods
Early Low Blueberry	Vaccinium vacillans	dry moist woods
Late Low Blueberry	Vaccinium angustifolium	dry woods
High Bush Blueberry	Vaccinium corymbosum	moist woods
	Vaccinium pennsylvanicum	dry woods
Olive (Oleaceae)		
Lilac	Syringa vulgaris	ornamental
Trumpet Creeper (Bignoniaceae)		
Trumpet Creeper	Campsis radicans	planted

*Honeysuckle (Caprifoliaceae)		Conditions
Northern Arrowwood	Viburnum recognitum	wet woods
Maple-Leaf Viburnum	Viburnum acerifolium	dry and wet woods
European Honeysuckle	Lonicera xylosteum	escaped to woods
Japanese Honeysuckle	Lonicera japonica	moist thickets

10. FLOWERING PLANTS - HERBS

Cattail		
Cattail	Typha latifolia	swamps
Pondweed (Najadaceae)		
Variable Pondweed	Potomogeton sp.	aquatic
Grass (Gramineae)		
Blue-Stemmed Grass Bear Tuffed Grass Orchard Grass Timothy	Dactylis glomerata	
Sedge (Cyperaceae)		
Common Bulrush	Scirpus sp.	riverbanks
Arum (Araceae)		
Skunk Cabbage	Symplocarpus foetidus	wooded swamps
Jack-In-The-Pulpit	Arisaema triphyllum	
Duckweed (Lemnaceae)		
Lesser Duckweek	Lemna minor	aquatic (ponds)
Spidewort (Commelinaceae)		
Asiatic Day Flower	Commelina communis	moist ground

Lily (Liliaceae)		Conditions
*Turks Cap Lily	Lilium superbum	stream sides
False Hellebore	Veratrum viride	wooded swamps
*Day Lily	Hemerocallis fulva	planted, escaped
Yucca	Yucca filamentosa	planted
Indian Cucumber Root	Medeola virginiana	woods
Solomon's Seal	Polygonatum biflorum	moist woods
False Solomon's Seal	Smilacina racemosa	moist woods
Canada Mayflower	Maianthemum canadense	moist woods
Iris (Iridaceae)		
Blue Flag	Iris sp.	open swamps
Blue Eyed Grass	Sisyrinchium angustifolium	fields
Orchid (Orchidaceae)		
*Pink Mocassin-Flower	Cypripedium acaule	dry-wet acid woods
*Wide Leaved Ladies Tresses	Spiranthes lucida	wet clearings
Downy Rattlesnake Plantain	Goodyera pubescens	moist woods
Nettle (Urticaceae)		
False Nettle	Boehmeria cyclindrica	moist clearings
Smartweed (Polygonaceae)		
Sheep Sorrel	Rumex acetosella	fields
Broad Dock	Rumex obtusifolius	fields
Arrow-Leaved Tearthumb	Polygonum sagittatum	marshes
Long-bristled Smartweed	Polygonum cespitosum	fields
Black Bindweed	Polygonum convolvulus	thickets
Pokeweed (Phytolaccaceae)		
Pokeweed	Phytolacca americana	fields

Pink (Carylphyllaceae)		Conditions
Evening Lychnis	Lychnis alba	fields
Bouncing Bet	Saponaria officinalis	fields
Deptford Pink	Dianthus armeria	fields
Water Lily (Nymphaeaceae)		
Fragrant Water Lily	Nymphaea odorata	acquatic
Crowfoot (Rannunculaceae)		
Tall Meadowrue	Thalictrum polygamum	wet woods
Marsh Marigold	Caltha palustris	swampy clearings
Common Buttercup	Ranunculus acris	wooded clearings
Mustard (Cruciferae)		
Peppergrass	Lepidium virginicum	fields
Watercress	Nasturtium officinale	shallow cold water
Dame's Rocket	Hesperis matronalis	moist thickets
Saxifrage (Saxifragaceae)		
Red Currant	Ribes sativium	escaped (woods)
Rose (Rosaceae)		
Strawberry	Fragaria virginiana	fields
Common Cinquefoil	Potentilla simplex	fields
Dwarf Cinquefoil	Potentilla canadensis	fields
White Avens	Geum canadensis	woods
Bean (Fabaceae)		
Wild Indigo	Baptisia tinctoria	fields
Red Clover	Trifolium pratense	fields
Birdsfoot Trefoil	Lotus corniculatus	fields
White Sweet Clover	Melilotus alba	fields
Slender Bush Clover	Lespedeza virginica	fields
Wood Sorrel (Oxalidaceae)		
Yellow Wood-Sorrel	Oxalis stricta	fields

Spurge (Euphorbiaceae)		Conditions
Cypress Spurge	Euphorbia cyparissias	fields
Touch-Me-Not (Balsaminaceae)		
Spotted Jewel Weed	Impatiens capensis	wet soil
St. Johnswort (Hypericaceae)		
Common St. Johnswort	Hypericum perforatum	fields
Violet (Violaceae)		
Dog Violet	Viola conspersa	stream bank
Kidney-Leaved Violet	Viola renifolia	
Great-Spurred Violet	Viola selkirkii	wet woods
Evening Primrose (Onagraceae)		
Evening Primrose	Oenothera biennis	fields
Enchanter's Nightshade	Circaea quadrisculata	woods
Water Milfoil (Hologoraceae)		
Water Milfoil	Myriophyllum heterophyllum	aquatic
Ginseng (Araliaceae)		
Wild Sarsaparilla	Aralia nudicaulis	woods
Parsley (Umbelliferoe)		
Wild Carrot	Daucus carota	fields
Poison Hemlock	Conium maculatum	stream banks
Heath (Ericaceae)		
Cranberry	Vaccinium macrocarpon	bogs
Indian Pipe	Monotropa uniflora	moist woods
*Spotted Wintergreen	Chimaphila maculata	dry woods
Wintergreen	Gaultheria procumbens	woods

Primrose (Primulaceae)		
Whorled Loosestrife	Lysimachia quadrifolia	moist woods
Starflower	Trientalis borealis	moist woods
Dogbane (Apocymaceae)		
Periwinkle	Vinca minor	moist fields
Milkweed (Asclepiadaceae)		
*Butterfly-weed	Asclepias tuberosa	fields
Common Milkweed	Asclepias syriaca	fields
Morning Glory (Convolvulaceae)		
Dodder	Cuscuta gronovii	swamps
Phlox (Polemoniaceae)		
Garden Phlox	Phlox paniculata	thickets
Borage (Boraginaceae)		
Forget-Me-Not	Myosotis scorpioides	streamside
Vervain (Verbenaceae)		
Vervain	Verbena articofolia	moist meadows
Mint (Labiatae)		
Heal-All	Prunella vulgaris	moist openings
Wild Bergamot	Monarda clinopardia	fields
Bluecurls	Trichostema dichotomum	fields
Nightshade (Solanaceae)		
Purple Nightshade	Solanum clulcamara	moist thickets
Common Nightshade	Solanum nigrum	wet thickets
Horse Nettle	Solanum carolinense	fields

Figwort (Shrophulariaceae)

Mullein	Verbascum thapsus	fields
Butter 'n' Eggs	Linaria vulgaris	fields

Plaintain (Plantaginiaceae)

Common Plaintain	Plantago major	fields
Narrow Leaved Plaintain	Plantago lancedata	fields

Madder (Rubiaceae)

Partridge Berry	Mitchella repens	moist woods

Composite (Compositae)

Black-Eyed Susan	Rudbeckia hirta	fields
Yarrow	Achillea millefoilium	fields ilium
Ox-Eyed Daisy	Chrysanthemum leucanthemum	fields
Sickle Leaved Golden Aster	Chrysopsis falcata	fields
Slender Fragrant Goldenrod	Solidago tenuifolia	fields
Rough Leaved Goldenrod	Solidago patula	fields
Daisy Fleabane	Erigeron strigosus	fields
Daisy Fleabane	Erigeron annuus	fields
Dandelion	Taraxacum officinale	fields
Bull Thistle	Cirsium vulgare	fields
Orange Hawkweed	Hieracium aurantiacum	fields
Wild Lettuce	Lactuca canadensis	fields
Hyssop-Leaved Thoroughwort	Eupatorium hyssopilfolium	fields
Chicory	Cichorium intybus	fields
Ragweed	Ambrosia artemisiifolia	fields
Eastern Silvery Aster	Aster concolor	fields
Flat-Topped White Aster	Aster umbellatus	fields
Maryland Golden Aster	Chrysopsis mariana	fields
Cat's Ear	Hypochoeris radicata	fields
Beggar's Ticks	Bidens frondosa	fields

Boneset	Eupatorium perfoliatum	wet clearings
Common Sunflower	Helianthus annuus	wet clearings

Snap dragon (Scrophulariaceae)

Moth Mullein	Verbascum blattaria	fields
Downy False Foxglove	Gerardia virginica	roadsides
Wood-betony	Pedicularis canadensis	woods
Golden Hedge-Hyssop	Gratiola aurea	pond edge

Pea (Leguminosae)

Small-Leaved Tick-Trefoil	Desmodium illinoense	fields
Purple Vetch	Vicia americana	fields

Meadow Beauty (Melastomataceae)

Virginia Meadow Beauty	Rhexia virginica	swamp clearings

Gentian (Gentianaceae)

Narrow-Leaved Gentian	Gentina linearis	fields

Tapegrass (Hydrocharitaceae)

Tapegrass	Vallisneria americana	streams

Cron (Gramineae)

Field Corn	Zea mays	cultivated

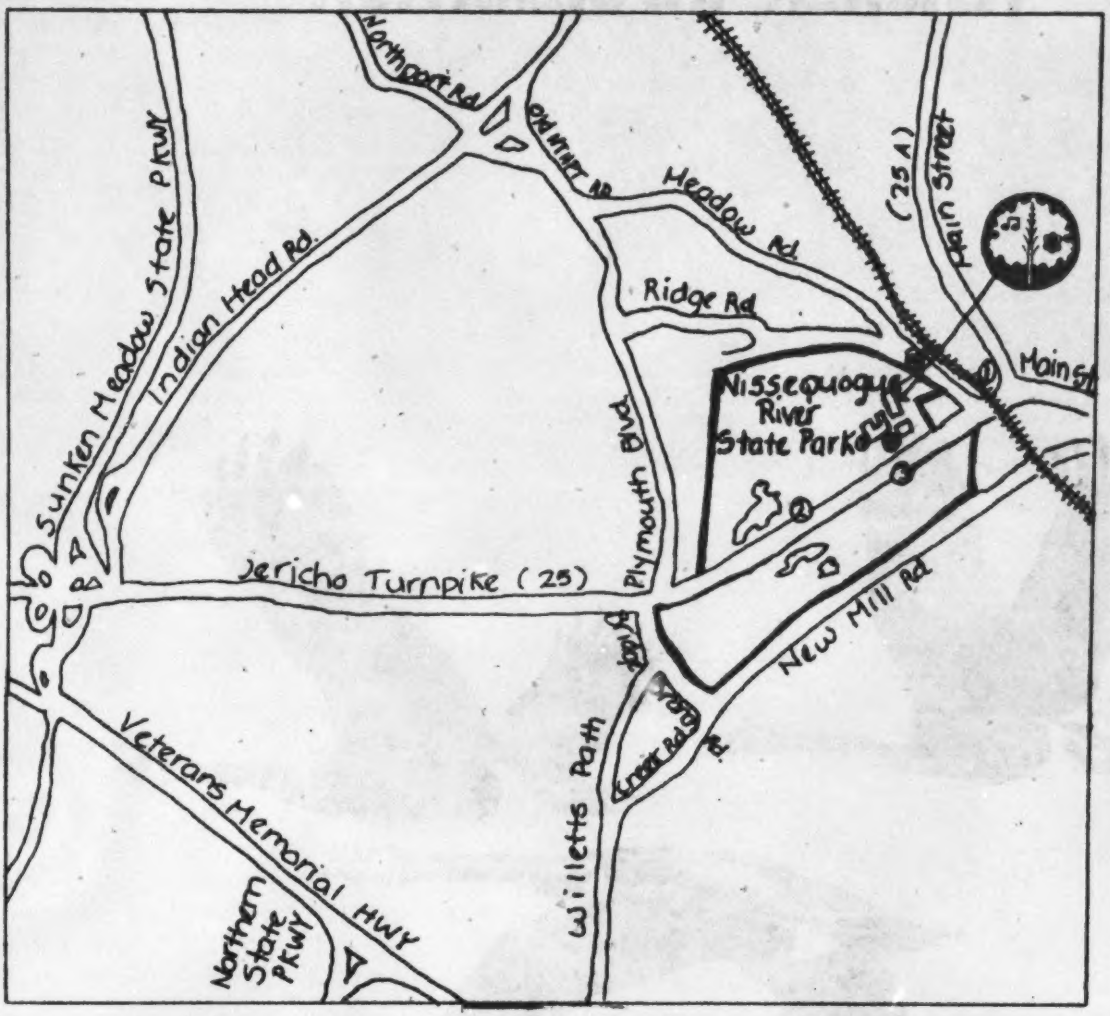
123 species

*Endangered Species

TEACHER INFORMATION

Location of SCOPE Outdoor Laboratory

at Nissequogue River State Park



LEGEND

1. Smithtown Bull (Whisper)
2. Nissequogue River State Park Entrance
3. Lehman's Auto Body
4. Entrance to parking lot
5. SCOPE Outdoor Learning Laboratory
6. SCOPE Operations Center

DIRECTIONS TO THE OUTDOOR LEARNING LABORATORY

From Western Suffolk:

Proceed eastward along Jericho Turnpike (25) past the Nissequogue State Park entrance. After passing the park entrance, you will ascend a hill and observe on the right Lehann's Auto Body. At this point you should be in the left lane and prepared to turn left at RAINERIS restaurant on Meadow Road. Continue on Meadow Road for about 1/4 mile to the gate on the left. After entering the park, follow the driveway to the Outdoor Learning Laboratory.

From Eastern Suffolk:

Proceed westward along Jericho Turnpike (25) past the Smithtown Bull and under the railroad tressel. The first road on the right is Meadow Road (RAINERIS restaurant is on this corner). Turn right and continue on Meadow Road for about 1/4 mile to the park gate on your left. After entering the park, follow the driveway to the Outdoor Learning Laboratory.

Teachers and district transportation directors will do well to remember that buses are not allowed on State Parkways.

Bus trips to any field location are sometimes a dull, uneducational experience. This need not be so. Because of Long Island's history, glacial origin, topography, cultural setting and industry, a number of opportunities exist to make the ride to and from the laboratory part of the total educational experience.

LABORATORY HOURS:

Arrival and departure times are essentially up to the discretion of the teacher. The laboratory at Nissequogue is operational from 8:30 A.M. until 4:30 P.M. Arrangements to arrive earlier and/or leave later may be made with the director. The only restriction is that the Park officially closes at 5:00 P.M.

Please observe a 15 mph speed limit on all park roads.

Guidelines for Teachers, Students and Parents

Nissequogue River State Park

1. No littering.

2. No smoking outside the Laboratory.

3. No collecting of specimens without prior approval of the teacher in charge or the site director.

4. Transportation to Willow Pond by bus must be confirmed in advance with the site director so that necessary arrangements may be made. When this has been confirmed and your bus enters the Club House drive, please stop at the main office and check in with the park official. Students should not exit the bus at this time.

5. All property west of the main entry drive at Willow Pond has been designated "restricted." Under no circumstances should anyone be near the Mill House or the mill. If you wish to discuss the history of these structures, I recommend doing it from the sand spit adjacent to the boat house.

6. When discussing the history of the Club House, maintain a distance of at least 200' and under no circumstances should anyone other than the teacher in charge enter or go near the building.

7. Under no circumstances will private vehicles during the school year be allowed to park at the Club House or at Willow Pond.

8. The house and barn and adjacent property along the green trail have also been designated "restricted."

NISSEQUOGUE OUTDOOR LEARNING LABORATORY

Safety Procedures:

In the event that a child becomes ill or injured at the laboratory site the following steps should be implemented.

1) For slight injuries, the first aid kit supplied by the laboratory may be utilized.

2) If injury or illness is of a more serious nature, notify staff immediately.

3) Staff or teacher utilizing the parent consent and health forms requested at an earlier date (planning session), contacts the parent or guardian to inform him of the nature of the illness or injury and the severity. These forms are kept in a master file at the Nissequogue River Outdoor Learning Laboratory. Thereafter a decision is reached and action may or may not be taken depending upon the severity of the injury or illness.

4) If the injury or illness is extreme and the parent/guardian or family physician cannot be contacted, the phone numbers of local hospitals have been provided.

St. John's Smithtown Hospital
Route 25A, Smithtown
Telephone: 360-2000

Smithtown General Hospital
Smithtown By-Pass & Route 111
Telephone: 979-4000

5) After the emergency is over, the teacher will complete the accident report form provided by the laboratory.

Police Emergency: 911

Fire Procedures

The Outdoor Learning Laboratory is constructed according to the approved code for school structures. The main entrance/exit is on the south side of the structure with additional exits on both east and west wings. Standard fire extinguishes are located within the laboratory. However, in the event of fire, teachers are to have students exit at once and leave fire fighting to skilled professionals.

Safety and First Aid Reminders

As in any field experience, the teacher is legally responsible for the supervision and safety of each student within his charge. The outdoors hold some hazards which we forget exist when we become accustomed to an indoor learning environment. The director of the laboratory in his inservice program for participating teachers will provide reminders; however, with even the best advance preparation, cuts, bruises, scratches, insect bites and stings may occur. Teachers can help keep accidents to a minimum by discouraging running, jumping, and climbing and most especially by making sure that every child is within sight of an adult at all times.

EQUIPMENT

Teachers are required to submit their equipment requisition lists prior to class utilization of a laboratory site. It is preferred that the director be made aware of each teacher's material requirements during the planning session which would proceed their laboratory participation. If for some reason this becomes impossible, the teacher may submit a requisition list by telephone or mail.

All quantities dispensed must be approved by the director. This may not necessarily coincide with amounts requested, i.e., compasses requested, 12; but because other classes may be using compasses also, only 6 will be issued.

Equipment will be placed on tables or counters prior to class arrival and clearly marked for each class.

At the end of each day of usage, all equipment must be checked in by the teacher in charge.

First aid kits will be given to each class.

Taking Equipment Outside

Teachers and students are encouraged to take instructional equipment outside. Not all is durable but outdoor use is completely in keeping with the philosophy of the laboratory. Better to wear the equipment out by continued instructional use than to have it in perfect shape on a stock-room shelf. A system to account for the whereabouts of specific pieces of equipment will be operating in the laboratory.

CONSERVATION PRACTICES

Although a good portion of the State Park is available to aid the teacher in his instructional program, it must be remembered that continued use of any area by a group can result in exploitation and damage to the area. This damage could be to plant and animal life or to physical features of the park. The removal of ground cover, the compaction of soil, the erosion of areas due to heavy foot traffic, the continual snapping off of twig and bush specimens and over collecting of any specific plant or animal species, are just some examples of damage to the park setting that is difficult, if not impossible to repair. In order for the park to remain as an almost perfect instructional setting, teachers can assist by making their students more aware of the proper treatment of the park setting. The following suggestions may be of some help.

1. Acquaint your students with the State Park setting problems that could be posed and discuss with them ways to avoid abuses of the environment.

2. Encourage students to "stick to paths" and establish walkways of the park.

3. Help establish a tradition whereby each class does at least one thing which contributes to the betterment of the environment during their time at the lab.

4. Prevent chopping, cutting, and mutilation of trees and shrubs and avoid over collecting or exploitation of animal species.

THE TEACHER PARTICIPATION PLAN

It is only through the teacher participation plan that Suffolk County school districts place students in SCOPE's Outdoor Learning Laboratories program during the school year.

In the spring prior to the school year concerned, the district makes reservations with SCOPE for use of a specific site by a "learning unit" -- a class, and a time block or time blocks totaling five school days in the day-use program or five school days and four nights in the residential program.

When reservations are firm, the district asks for individual teachers to take over the reservations for sites and time blocks.

The teachers who accept are invited to the Outdoor Learning Laboratories during the summer or early fall for inservice preparation in outdoor education.

Because no students are welcomed into the program unless accompanied by a teacher who has successfully completed inservice, the teacher can appreciate the fact that his role in the program is central.

The teacher participates first in the day-use program; in a later year he may participate in the residential program. The teacher begins by participating in the day-use inservice program and then continues into the day-use implementation program on site. Later, he may participate in the residential inservice program followed by the residential implementation program at an overnight site. The teacher may also wish to participate in supplementary inservice programs.

Day-use Inservice and Implementation Programs

Day inservice is the first step in teacher participation; plans begun during inservice are implemented in class meetings on school days at the site reserved.

Day Inservice

Inservice training for day use of sites gives teachers opportunities to gain understanding of the principles of outdoor education, to learn the site where they will be teaching, to familiarize themselves with available equipment and materials, and to know the procedures by which the program operates.

Day-use inservice sessions are usually scheduled as follows: five full days during the summer; two or three hours of individual or small group planning prior to the first class meeting; and a day session in June for general review and evaluation.

The objective of day inservice is, of course, to develop specific teaching plans and prepare to implement them in outdoor class meetings.

Inservice continues in planning sessions which the site director schedules with individual teachers or small groups just

prior to the first class meeting day. In these afternoon sessions, the staff person helps the teacher to determine objectives, organize plans, specify activities, and list needed equipment. When the final plan is complete, the teacher is ready for implementation.

Implementation of the Day-use Program

The five days of class meetings are usually divided into two sessions of two or three days each, usually during two different seasons.

Implementing teaching plans first requires making appropriate arrangements and following established procedures. It is the responsibility of the teacher to be aware of date and site determinations made by his school district, to make sure of transportation accommodations, to recruit and supervise aides, to obtain Outdoor Learning Laboratories literature needed by himself, his aides, and his students, and to provide the Outdoor Learning Laboratories with needed information such as enrollment and student data.

It is expected that the teacher provide the director of the site with a planned itinerary of the site and with a list of equipment needed. On arrival at site, he informs the director of actual student attendance, checks the equipment requested and asks delegated aides and students to pick up the equipment. Following plans clarified in the classroom ahead of time, the teacher expeditiously moves the students into the first stage of their outdoor experience. In case of inclement weather he shifts over to indoor activities likewise planned ahead of time. At the end of the day, he checks in and accounts for equipment and materials used.

At all times, the teacher can rely on the support of staff personnel for aid in emergencies, for clarifying unforeseeable contingencies, and for providing materials and equipment. The teacher, however, is expected to be self-sufficient enough to avoid last-minute requests for ideas or materials.

A teacher's second or further year of day implementation should be prepared for by continued inservice, although an experienced teacher may be excused by staff from attendance at certain inservice sessions.

Residential Inservice and Implementation

Successful completion of inservice training and implementation of a day-use program qualifies a teacher for residential participation.

Residential Inservice

Although teacher preparation for managing overnight learning experiences for students is the same in principle as that for day experiences, the overnight situation offers additional opportunities and carries additional responsibilities; participation in a second type of inservice preparation is therefore required. If the basic principles are understood, overnight inservice concentrates on use of the resources of the site, special equipment such as that which might be used in astronomy, night time activities, and procedures relative to providing meals and housing.

The first session of overnight inservice is scheduled as a summer or early fall weekend to be spent overnight at the site chosen. As with day inservice, planning sessions precede overnight implementation. Meals and meal preparation are an added teacher responsibility, as well as seeing to it that the children bring bedding and adequate clothing. The teacher supplements learning experiences with social and recreational experiences.

As with day implementation, a teacher's second or further year of overnight implementation should be accompanied by overnight inservice, with the possibility of being excused from certain inservice sessions.

Teacher Participation in Supplementary Programs

Saturday Optional Inservice Sessions

All teachers, whether or not currently participating in the Outdoor Learning Laboratories Program, are welcome to attend environmental tours, demonstrations, and other types of programs, usually featuring a great naturalist, offered at one or another site on Saturdays during the school year.

Regional and Subregional Environmental Workshops

All teachers affiliated with school districts participating in the SCOPE basic program are welcome to enroll in any of the numerous specialized environmental workshops offered through the SCOPE regular and spring supplement catalogs of regional inservice workshops.

School districts participating in the SCOPE basic program are welcome to request environmental or outdoor education workshops designed to meet local needs; such locally-oriented programs are available through SCOPE's subregional service.

Inservice Credit for Participating Teachers

The teacher who successfully completes an inservice and implementation program, either day or overnight, is awarded a SCOPE certificate of completion of two equivalent academic hours. In two different years a teacher may qualify for both certificates for a total of four credits. Criteria determining qualification for these certificates are the same as those determining qualification for any other inservice credits as spelled out in the general catalog of regional inservice workshops; these criteria include attendance requirements and performance level judged satisfactory by the Outdoor Learning Laboratories staff.

A second or further year of day participation, or of overnight participation, does not entitle a teacher to additional credits. Additional credits may, of course, be obtained through completion of regional or subregional workshops.